

## Project Note

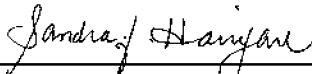
Date: September 30, 2009

Name: Sandra Harrigan

Firm: Tetra Tech EM Inc.

Title: Environmental Scientist

Signature:



Subject: Observations made by Tetra Tech personnel during a March 2006 reconnaissance of the Smokey Mountain Smelters facility in Knoxville, Tennessee

### PROJECT NOTE SUMMARY

On March 1, 2006, Sandra Harrigan, Environmental Scientist, of Tetra Tech met Loftin Carr, Remedial Project Manager (RPM) of the U.S. Environmental Protection Agency (EPA) Region 4 and Burl Maupin, Environmental Protection Specialist, Tennessee Department of Environment and Conservation (TDEC), Division of Remediation (DoR) at the Smokey Mountain Smelters (SMS) facility in Knoxville, Tennessee. The purpose of the facility reconnaissance was to document the current facility conditions and observe the surface water migration pathway downstream of the facility in preparation of a preliminary Hazard Ranking System (HRS) score for the SMS facility.

Below are observations made during the facility reconnaissance:

- The entrance of the property was secured with a locked gate. Mr. Maupin unlocked the gate for personnel to enter the property.
- Mr. Maupin indicated that the SMS was a secondary aluminum smelting facility. Materials were smelted to get the aluminum out and the resulting waste was disposed of outside of the building.
- The process building is made of corrugated steel and is in major disrepair. Many sections of the exterior walls of the building were missing or dilapidated. The roof of the building also was dilapidated, with many areas missing. In some areas, the corrugated steel looked as if it was about to fall off and would flap when the wind blew.
- The inside floor of the building appeared to be dirt and was covered with aluminum dross throughout.
- The inside of the building did not have many walls. There was a partial wall, which divided the building into upper and lower levels. There is a drop of about 10 feet between the upper to the lower levels of the building.
- The upper level of the building contained several piles of aluminum dross. The aluminum dross is gray in color. Some of the piles contained large boulder-like chunks with fine slag like material. Also, some piles appeared to be almost completely fine gray slag like material. In certain areas, the piles were almost to the roof.
- The piles located inside the process building are referred to as interior waste piles.
- On the walls behind the piles, several words were written. The words appeared to be names of companies that may have disposed of waste at the SMS facility. Some of the names include: Alcoa, Metal Exchange, Meyers, Summit, and Emerson.
- Signs of trespassing observed included many animal and human footprints inside and outside of the process building, and a soccer ball behind the process building. Also, graffiti was spray painted on the walls throughout the upper and lower sections of the process building.
- Inside the upper level of the building, there were drums of what appeared to be filter bags from the bag houses.
- The lower level housed equipment that appeared to be some sort of mixer.
- There were two bag houses behind the building.
- Gray dross and filter bags from the bag houses were located in outside of the process building.

- A pond is located in a topographically depressed area in the eastern portion of the property. Mr. Maupin indicated that at one time, the pond was covered with aluminum dross from the waste pile located on the southern portion of the property (exterior waste pile). This pond is sometimes referred to as a settling pond. A fence was located in the pond.
- A depression located south of the process building identified during the 1998 TDEC site investigation was not observed.
- The large exterior waste pile appeared to be the same material as the interior waste pile, but it appeared more weathered.
- An apartment complex is located east- of the process building, across the railroad tracks. A fence is located along the property line but the fence has holes in it.
- In the areas that are east and southeast of the on-site pond, one can hear tadpoles and frogs in the stream that drains the pond. The area was heavily overgrown with vegetation.
- On the northern side of the property near the locked fence, there were a lot of green metal shelving and a metal roll off box. The metal box contained scrap metal. Mr. Maupin indicated that David Witherspoon owns the metal items.
- There was a pile of drums located at the southwestern corner of the exterior waste pile. A leachate seep was observed emanating from the exterior waste pile in this area. The leachate seep flowed from to an unnamed perennial tributary of the East Branch of Flenniken Branch.
- Another leachate seep was also observed emanating from the exterior waste pile east of the pile of drums. This second leachate seep also flowed to the unnamed perennial tributary of the East Branch of Flenniken Branch.
- During the reconnaissance, an engineered and maintained runoff management system to prevent the leachate seeps from entering the on-site unnamed perennial tributary of the East Branch of Flenniken Branch was not present. Also, no maintained engineered cover, functioning and maintained run-on control system, and run-off management system were in place to contain surface water runoff from the interior and exterior waste piles.
- White foam was present on the surface of the water where the seeps joined the on-site unnamed perennial tributary of the East Branch of Flenniken Branch. Foam was also present on the surface of the water at the confluence of the on-site unnamed perennial tributary and the East Branch of Flenniken Branch.
- Personnel drove to downstream locations where the East Branch of Flenniken Branch and Flenniken Branch could be observed. The East Branch of Flenniken Branch flows from east to west, then in a southwesterly direction along railroad tracks.
- The East Branch of Flenniken Branch was observed in the vicinity of the location marked as BM867 on the U.S. Geologic Survey topographic map, just upstream of Flenniken Branch (see Reference 3). The stream goes through a culvert under a street in this area. Small fish were observed in the East Branch of Flenniken Branch on the downstream side of the street. Also, fishing poles were observed along the bank of the stream in this area. However, actual fishing by local residents was not observed.
- Personnel also observed Flenniken Branch where it flows into the I.C. King Park, a county park. There are public fishing piers and boat ramps at the park. There is a railroad on the upstream side of the park and a large spill way on the downstream end. The spill way connects Flenniken Branch to the I.C. King Park. Flenniken Branch ends in the lake (Fort Loudoun) formed at the I.C. King Park. The park is an arm of the Tennessee River. Flow continues out of the lake into the Tennessee River to complete the 15-mile surface water migration pathway target distance limit.

### **RESPONSE REQUIRED**

( x ) None ( ) Phone call ( ) Memo ( ) Letter ( ) Report

cc: File ( x ) Project Manager ( ) Principal Investigator ( ) Other (specify)



**OFFICIAL PHOTOGRAPH No. 1  
U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)**

<b>TDD Number:</b>	TTEMI-05-003-0001	<b>Location:</b>	Smokey Mountain Smelters (SMS)
<b>Orientation:</b>	West-southwest	<b>Date:</b>	March 1, 006
<b>Photographer:</b>	Sandra Harrigan, Tetra Tech	<b>Witness:</b>	Loften Carr, EPA
<b>Subject:</b>	Locked gate at the entrance of the SMS facility property.		



**OFFICIAL PHOTOGRAPH No. 2**  
**U.S. ENVIRONMENTAL PROTECTION AGENCY**

**TDD Number:** TTEMI-05-003-0001

**Location:** Smokey Mountain Smelters

**Orientation:** West

**Date:** March 1, 2006

**Photographer:** Sandra Harrigan, Tetra Tech

**Witness:** Lofton Carr, EPA

**Subject:** Dilapidated process building.



**OFFICIAL PHOTOGRAPH No. 3  
U.S. ENVIRONMENTAL PROTECTION AGENCY**

**TDD Number:** TTEMI-05-003-0001

**Location:** Smokey Mountain Smelters

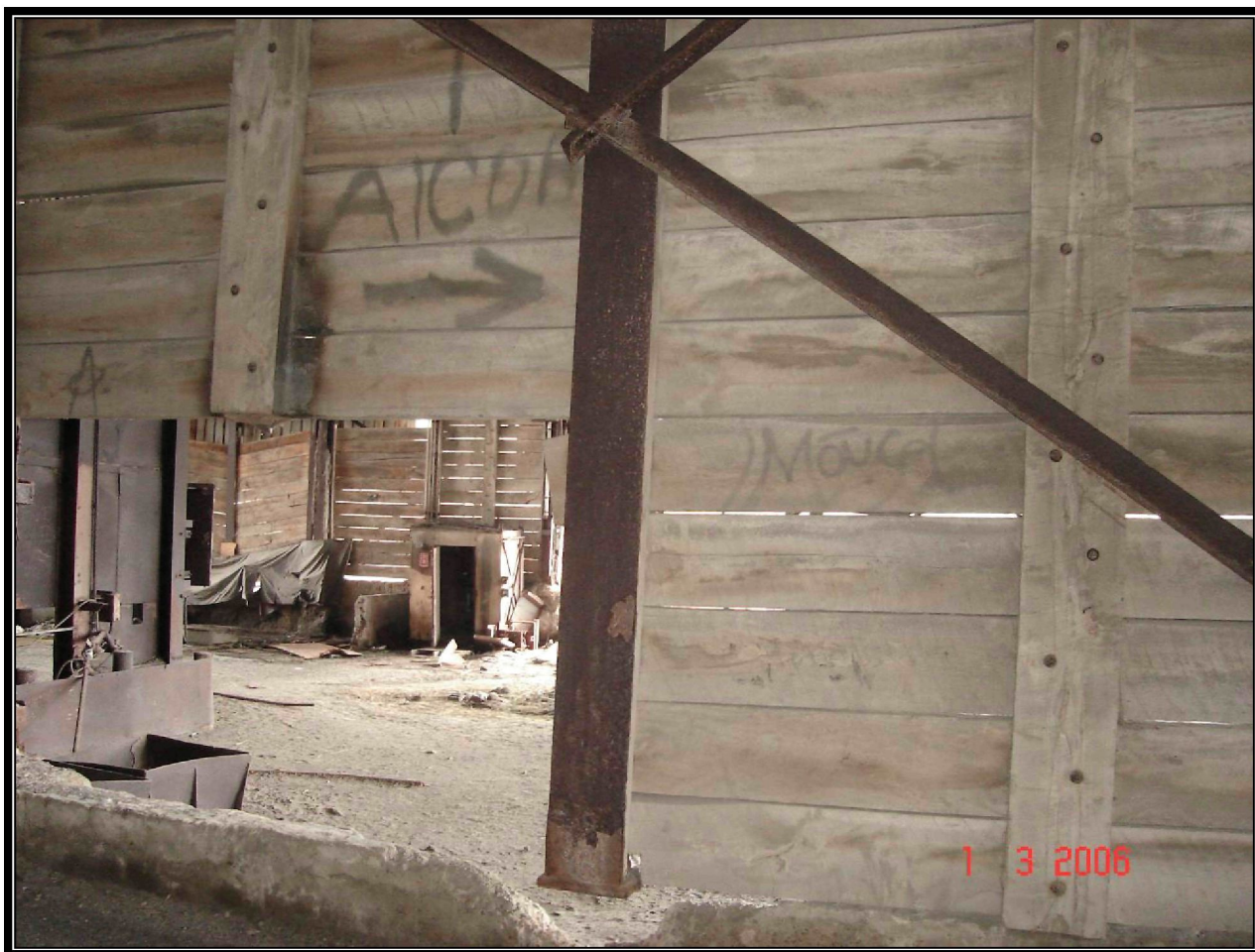
**Orientation:** East

**Date:** March 1, 2006

**Photographer:** Sandra Harrigan, Tetra Tech

**Witness:** Lofton Carr, EPA

**Subject:** Piles of aluminum dross located inside the process building. The roof and sides of the building are in major disrepair. Filter bags from the bag houses are located in the foreground of the picture.



**OFFICIAL PHOTOGRAPH No. 4**  
**U.S. ENVIRONMENTAL PROTECTION AGENCY**

**TDD Number:** TTEMI-05-003-0001

**Location:** Smokey Mountain Smelters

**Orientation:** North

**Date:** March 1, 2006

**Photographer:** Sandra Harrigan, Tetra Tech

**Witness:** Lofton Carr, EPA

**Subject:** Inside of process building. Wooden partitions separate the upper and lower portions of the building. The names of companies such as Alcoa are spray painted on the walls of the building. These companies may have shipped waste to the SMS facility.



**OFFICIAL PHOTOGRAPH No. 5**  
**U.S. ENVIRONMENTAL PROTECTION AGENCY**

<b>TDD Number:</b>	TTEMI-05-003-0001	<b>Location:</b>	Smokey Mountain Smelters
<b>Orientation:</b>	Northwest	<b>Date:</b>	March 1, 2006
<b>Photographer:</b>	Sandra Harrigan, Tetra Tech	<b>Witness:</b>	Loften Carr, EPA
<b>Subject:</b>	Piles of aluminum dross located inside the process building		



**OFFICIAL PHOTOGRAPH No. 6**  
**U.S. ENVIRONMENTAL PROTECTION AGENCY**

<b>TDD Number:</b>	TTEMI-05-003-0001	<b>Location:</b>	Smokey Mountain Smelters
<b>Orientation:</b>	East	<b>Date:</b>	March 1, 2006
<b>Photographer:</b>	Sandra Harrigan, Tetra Tech	<b>Witness:</b>	Loften Carr, EPA
<b>Subject:</b>	Large pile of aluminum dross located inside the upper level of the process building.		



**OFFICIAL PHOTOGRAPH No. 7**  
**U.S. ENVIRONMENTAL PROTECTION AGENCY**

**TDD Number:** TTEMI-05-003-0001

**Location:** Smokey Mountain Smelters

**Orientation:** South

**Date:** March 1, 2006

**Photographer:** Sandra Harrigan, Tetra Tech

**Witness:** Lofton Carr, EPA

**Subject:** Aluminum dross located on the floor of the process building. Drums and what appears to be bags from the bag houses of the furnaces also are located throughout the process building.



**OFFICIAL PHOTOGRAPH No. 8**  
**U.S. ENVIRONMENTAL PROTECTION AGENCY**

**TDD Number:** TTEMI-05-003-0001

**Location:** Smokey Mountain Smelters

**Orientation:** North

**Date:** March 1, 2006

**Photographer:** Sandra Harrigan, Tetra Tech

**Witness:** Lofton Carr, EPA

**Subject:** Lower level of process building. Lower level of process building is about 10 feet lower than the upper level of the building.



**OFFICIAL PHOTOGRAPH No. 9**  
**U.S. ENVIRONMENTAL PROTECTION AGENCY**

<b>TDD Number:</b>	TTEMI-05-003-0001	<b>Location:</b>	Smokey Mountain Smelters
<b>Orientation:</b>	Southwest	<b>Date:</b>	March 1, 2006
<b>Photographer:</b>	Sandra Harrigan, Tetra Tech	<b>Witness:</b>	Loften Carr, EPA
<b>Subject:</b>	Exterior waste pile located on the southern side of the process building		



**OFFICIAL PHOTOGRAPH No. 10**  
**U.S. ENVIRONMENTAL PROTECTION AGENCY**

**TDD Number:** TTEMI-05-003-0001

**Location:** Smokey Mountain Smelters

**Orientation:** North

**Date:** March 1, 2006

**Photographer:** Sandra Harrigan, Tetra Tech

**Witness:** Lofton Carr, EPA

**Subject:** Exterior waste pile. The on-site process building is visible in the background. The enormity of the pile also is discernible based on the height of the pile in the distance.



**OFFICIAL PHOTOGRAPH No. 11**  
**U.S. ENVIRONMENTAL PROTECTION AGENCY**

<b>TDD Number:</b>	TTEMI-05-003-0001	<b>Location:</b>	Smokey Mountain Smelters
<b>Orientation:</b>	East-southeast	<b>Date:</b>	March 1, 2006
<b>Photographer:</b>	Sandra Harrigan, Tetra Tech	<b>Witness:</b>	Loften Carr, EPA
<b>Subject:</b>	On-site pond. Located in the east-central portion of the SMS property.		



**OFFICIAL PHOTOGRAPH No. 12**  
**U.S. ENVIRONMENTAL PROTECTION AGENCY**

<b>TDD Number:</b>	TTEMI-05-003-0001	<b>Location:</b>	Smokey Mountain Smelters
<b>Orientation:</b>	Northeast	<b>Date:</b>	March 1, 2006
<b>Photographer:</b>	Sandra Harrigan, Tetra Tech	<b>Witness:</b>	Loften Carr, EPA
<b>Subject:</b>	Exterior waste pile. The foreground of the picture contains grey material (aluminum dross or salt cake). The process building is visible in the background.		



**OFFICIAL PHOTOGRAPH No. 13**  
**U.S. ENVIRONMENTAL PROTECTION AGENCY**

<b>TDD Number:</b>	TTEMI-05-003-0001	<b>Location:</b>	Smokey Mountain Smelters
<b>Orientation:</b>	Northwest	<b>Date:</b>	March 1, 2006
<b>Photographer:</b>	Sandra Harrigan, Tetra Tech	<b>Witness:</b>	Loften Carr, EPA
<b>Subject:</b>	Pile of rusted drums located at the west-southwestern end of the exterior waste pile. Standing water from the leachate seep is visible in the foreground.		



**OFFICIAL PHOTOGRAPH No. 14**  
**U.S. ENVIRONMENTAL PROTECTION AGENCY**

<b>TDD Number:</b>	TTEMI-05-003-0001	<b>Location:</b>	Smokey Mountain Smelters
<b>Orientation:</b>	Northeast	<b>Date:</b>	March 1, 2006
<b>Photographer:</b>	Sandra Harrigan, Tetra Tech	<b>Witness:</b>	Loften Carr, EPA
<b>Subject:</b>	Location of small leachate seep located at the southern end of the exterior waste pile. This location is east of the large pile of rusted drums and the larger leachate seep.		



**OFFICIAL PHOTOGRAPH No. 15**  
**U.S. ENVIRONMENTAL PROTECTION AGENCY**

**TDD Number:** TTEMI-05-003-0001

**Location:** Smokey Mountain Smelters

**Orientation:** South

**Date:** March 1, 2006

**Photographer:** Sandra Harrigan, Tetra Tech

**Witness:** Lofton Carr, EPA

**Subject:** Probable point of entry where the leachate seep (west southwestern end of the exterior waste pile) enters the on-site unnamed perennial tributary of the East Branch of Flenniken Branch.



**OFFICIAL PHOTOGRAPH No. 16**  
**U.S. ENVIRONMENTAL PROTECTION AGENCY**

<b>TDD Number:</b>	TTEMI-05-003-0001	<b>Location:</b>	Smokey Mountain Smelters
<b>Orientation:</b>	East	<b>Date:</b>	March 1, 2006
<b>Photographer:</b>	Sandra Harrigan, Tetra Tech	<b>Witness:</b>	Loften Carr, EPA
<b>Subject:</b>	On-site unnamed perennial tributary of the East Branch of Flenniken Branch, just downstream of the leachate seeps.		



**OFFICIAL PHOTOGRAPH No. 17**  
**U.S. ENVIRONMENTAL PROTECTION AGENCY**

<b>TDD Number:</b>	TTEMI-05-003-0001	<b>Location:</b>	Smokey Mountain Smelters
<b>Orientation:</b>	East	<b>Date:</b>	March 1, 2006
<b>Photographer:</b>	Sandra Harrigan, Tetra Tech	<b>Witness:</b>	Loften Carr, EPA
<b>Subject:</b>	On-site unnamed perennial tributary of the East Branch of Flenniken Branch, just downstream of the leachate seeps. Moss can be seen on the ground in the upland areas along the stream.		



**OFFICIAL PHOTOGRAPH No. 18**  
**U.S. ENVIRONMENTAL PROTECTION AGENCY**

<b>TDD Number:</b>	TTEMI-05-003-0001	<b>Location:</b>	Smokey Mountain Smelters
<b>Orientation:</b>	South	<b>Date:</b>	March 1, 2006
<b>Photographer:</b>	Sandra Harrigan, Tetra Tech	<b>Witness:</b>	Loften Carr, EPA
<b>Subject:</b>	Confluence of the on-site unnamed perennial tributary with the East Branch of Flenniken Branch. White foam is present on the surface of the water.		



**OFFICIAL PHOTOGRAPH No. 19**  
**U.S. ENVIRONMENTAL PROTECTION AGENCY**

**TDD Number:** TTEMI-05-003-0001      **Location:** Smokey Mountain Smelters  
**Orientation:** East      **Date:** March 1, 2006  
**Photographer:** Sandra Harrigan, Tetra Tech      **Witness:** Lofton Carr, EPA  
**Subject:** East Branch of Flenniken Branch, downstream of the SMS facility.



**OFFICIAL PHOTOGRAPH No. 20**  
**U.S. ENVIRONMENTAL PROTECTION AGENCY**

**TDD Number:** TTEMI-05-003-0001

**Location:** Smokey Mountain Smelters

**Orientation:** East

**Date:** March 1, 2006

**Photographer:** Sandra Harrigan, Tetra Tech

**Witness:** Lofton Carr, EPA

**Subject:** Flenniken Branch, downstream of the SMS facility. The stream goes through a culvert. The water is more shallow on the north end of the culvert and is about 2 feet deep on the southern end. Small fish were observed in Flenniken Branch on the southern end of the culvert. This location is near Benchmark 867 on a U.S. Geological Survey map (see Reference 3).